REMARKS

The application included claims 1-24 prior to entering this amendment.

Claim 11 is cancelled, herein.

Claims 1-3, 10, 12, 14, 16, and 19 are amended. No new matter is added.

The application remains with claims 1-10 and 12-24 after entering this amendment.

Request for Continued Examination - 35 U.S.C. § 132(b) & 37 CFR § 1.114

Applicant is filing herewith a Request for Continued Examination. Authorization to pay the examination fee is included with this response.

Claim Rejections - 35 U.S.C. § 103

The Examiner rejected claims 1-9 under 35 U.S.C. § 103(a) over Lee *et al.* (U.S. Patent 6,178,015) and variously in view of Selby (U.S. Patent 5,404,232), Irie *et al.* (U.S. Patent 5,644,409), and Horiuchi *et al.* (U.S. Patent 6,445,469).

The rejection is traversed; however, Applicant amends claims 1-3 to expedite prosecution, and without prejudice with regard to pursuing the claims as previously presented or in other forms in a continuation or other application. Amended claim 1 recites, in part, a method, comprising:

> scanning a document to determine a plurality of actual gray level values for a plurality of pixels scanned from the document; and
>
> scanning a continuous longitudinal calibration pattern while scanning the document to determine a correctional gray level value associated with the calibration pattern.

Lee is directed to a scanner which includes an optical ruler that is used to compute the moving steps of a step motor (Abstract). Alternating black and white blocks are arranged along the scanning direction to locate the position of the image sensor (col. 2, lines 37-67).

In rejecting claim 1, the Examiner acknowledged that Lee fails to disclose scanning a continuous longitudinal (calibration) pattern while scanning a document, and instead alleged that Selby discloses these features (page 4, lines 3-5 of the Office Action). Applicant respectfully disagrees.

Selby describes a white test strip 30 and a black test strip 32 being located at one end of a sheet S (FIG. 4). The path of a shuttle 14 that carries a lamp 12 is shown by an arrow at the

bottom of FIG. 4. FIG. 5 of Selby shows in more detail the interrelationship between the photo-sensor in array 20 and the test strips 30 and 32 (col. 4, lines 15-17) and confirms that the black and white test strips 30 and 32 are both positioned at one end of platen 10 above the sheet S.

In the Advisory Action dated January 29, 2009, the Examiner states that "the array sensor (of Selby) can receive reflected light from both scanned image form sheet S and test strips 30 and 32" (page 2, second paragraph). Insofar as the Examiner is alleging that the reflected light is received from both the scanned image and the test strips at the same time, Applicant respectfully disagrees.

Selby's "test strips are positioned so that, at start-up, the strips may be illuminated by lamp 12" (col. 4, lines 5-7; col. 1, lines 41-43). An average of the measured reflectivities of the test strips is calculated, and this average value is used for "subsequent" scanning operations to calibrate the associated scanned images (col. 3, lines 6-20). The subsequently scanned image data is therefore scanned after the illumination of the test strips and not, as suggested by the Examiner, at the same time. Selby is an example of a calibration device described in Applicant's Background, wherein the calibration pattern is scanned prior to scanning the document (Fig. 1 and page 2, lines 10-13 of Applicant's specification). In fact, Selby himself acknowledges that his calibration is performed the same as "the prior art" (col. 6, lines 43-44). Accordingly, Applicant respectfully submits that Selby fails to disclose *scanning a continuous longitudinal calibration pattern while scanning the document to determine a correctional gray level value associated with the calibration pattern.*

Furthermore, Selby teaches away from the above stated features since, as previously discussed, he discloses that the calculation of the average of the measured reflectivities of the test strips is accomplished before the document is scanned. If Selby were combined with Lee as the Examiner suggests, the image sensor of Lee would presumably need to scan the length of the scanning platen to obtain an average value of the optical ruler, and then the image sensor would again need to scan the length of the scanning platen a second time to obtain the scanned image. This would require twice the time to scan the image as compared to a single scan of the document. There would be no motivation to combine these references as such, since the resulting scanner would be less efficient than the scanner disclosed in Selby itself.

Irie also fails to disclose *scanning a continuous longitudinal calibration pattern while scanning the document to determine a correctional gray level value associated with the*

calibration pattern, as recited by claim 1. Similar to Selby, as well as the scanner described in Applicant's Background, Irie first determines the reference values associated with reference plate 24, and "after" the values are determined, use the shading correction to correct the image data (col. 9, lines 61-65). That the reference plate 24 of Irie is not scanned while the document is being scanned is further evidenced at column 9, lines 10-15 where Irie describes that the black reference value is determined with the lamp 25 turned off. Irie does not describe how a document may be scanned with the lamp 25 turned off. Furthermore, with reference to Figure 2 of Irie, as the document is fed through the rollers 21 in the scanning direction 22, the document would interrupt the light being transmitted from the lamp 25 to the CCD 26.

Irie also teaches away from the proposed combination with Lee as suggested by the Examiner, for similar reasons as provided above with respect to the combination of Lee and Selby. Since Irie's reference values are determined prior to correcting the image data, the image sensor of Lee would need to need to separately scan the optical ruler and the document, thus requiring the image sensor to move twice as far as for a single scan of the document.

Claims 4 and 7 are believed to be allowable for at least some of the reasons provided above with respect to claim 1. As claims 2, 3, 5, 6, 8, and 9 depend from independent claims 1, 4, or 7 they are believed to be patentable over the art for at least the foregoing reasons, as well as for the further novel features recited respectively therein. Withdrawal of the rejection of claims 1-9 is respectfully requested.

The Examiner rejected claims 10-24 under 35 U.S.C. § 103(a) over Sheng *et al.* (U.S. Patent 6,753,982) and variously in view of Seachman *et al.* (U.S. Patent 5,621,217), Horiuchi, and Lee.

The rejection is traversed, in part; however, Applicant amends claims 10, 12, 14, 16, and 19 to expedite prosecution, and without prejudice with regard to pursuing the claims as previously presented or in other forms in a continuation or other application. Amended claim 10 recites, in part, an apparatus, comprising:

> a reference pattern disposed adjacent to the scanning platform, wherein the reference pattern is at least as long as the scanning platform in the document scanning direction; and
>
> a processor configured to:
>
> determine a correctional gray level value based at least in part on a scanned image of the reference pattern; and

determine a compensational gray level value for the pixels of the scanned image based at least in part on the actual gray level and the correctional gray level.

The Examiner acknowledged that Sheng does not disclose the reference pattern of claim 10, and the Examiner instead alleged that Seachman discloses the reference pattern.

FIG. 1 of Seachman shows a calibration strip 3 positioned in parallel with the lamp 1 and the sensor 7. Seachman fails to describe or disclose a scanning platform. Even assuming, for arguments sake, that a scanning platform is inherent, Seachman provides no indication of an orientation, length, or relative position of a scanning platform. Accordingly, Applicant respectfully submits that Seachman also fails to disclose *a reference pattern disposed adjacent to the scanning platform, wherein the reference pattern is at least as long as the scanning platform in the document scanning direction*, as recited by claim 10.

Furthermore, Seachman teaches away from having a reference pattern that is at least as long as a scanning platform. According to Seachman, the calibration strip and tag are scanned to produce "correction values for subsequent scans from image data." (col. 3, lines 18-25). Seachman is an example of a calibration device described in Applicant's Background, wherein the calibration strip is scanned prior to scanning the document (Fig. 1 and page 2, lines 10-13 of Applicant's specification). If Seachman's calibration strip were at least as long as the scanning platform in the document scanning direction, then Seachman's sensor would presumably need to travel twice the length of the scanning platform to obtain the calibration data and subsequently obtain the scanned image data. This would be a less efficient process than described in Seachman itself.

Horiuchi similarly fails to disclose the features recited in claim 10. The combination of Horiuchi with Sheng and Seachman is further traversed for the reasons provided in Applicant's previously submitted Amendments.

Claim 19 is believed to be allowable for at least some of the reasons provided above with respect to claims 1 and 10, in addition to the further novel features recited therein. For example, claim 19 recites, in part, an apparatus comprising:

means for scanning a document and a calibration pattern at the same time along a scanning path, wherein the means for scanning comprises one or more scan lines; and

means for obtaining actual grey level values from the scanned document and obtaining a correctional grey level value from the scanned calibration pattern,

wherein the actual gray level value and the correctional gray level value are obtained along the one or more scan lines.

As claims 12-18 and 20-24 depend from independent claims 10 or 19 they are believed to be patentable over the art for at least the foregoing reasons, as well as for the further novel features recited respectively therein. Withdrawal of the rejection of claims 10 and 12-24 is respectfully requested.

Any statements made by Examiner that are not addressed by Applicant do not necessarily constitute agreement by the Applicant. In some cases, Applicant may have amended or argued the allowability of independent claims thereby obviating grounds for rejection of the dependent claims.

CONCLUSION

For the foregoing reasons, the Applicant respectfully requests reconsideration and allowance of claims 1-10 and 12-24. The Examiner is encouraged to telephone the undersigned if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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